

AMENDMENTS TO THE SPECIFICATION:

Please add the following *new* paragraph on page 1, between lines 2 and 3:

CROSS-REFERENCE TO RELATED APPLICATIONS

This U.S. National stage application claims priority under 35 U.S.C. §119(a) to Japanese Patent Application No. 2004-140692, filed in Japan on May 11, 2004, the entire contents of which are hereby incorporated herein by reference.

Please replace paragraph [0002] with the following rewritten version:

[0002] Conventionally, there has been a fluid device including a compression mechanism and an expansion mechanism as disclosed in ~~Patent Document 1~~ Japanese Laid Open Patent Publication No. 2003-138901. The fluid device has a rotary compressor accommodated in the lower part of the casing and a scrollable expander accommodated in the upper part of the casing. The fluid device also includes an electric motor between the compressor and the expander. The compressor and expander are coupled to both ends of a drive shaft which is connected to the motor.

Please remove the heading at page 1, line 20, as follows:

~~[Patent Document 1] Japanese Laid Open Patent Publication No. 2003-138901~~

Please replace the heading at page 1, line 21, with the following rewritten version:

SUMMARY OF THE INVENTION ~~DISCLOSURE OF INVENTION~~

Please remove the heading at page 1, line 22, as follows:

~~Problems to be solved by the invention~~

Please remove the heading at page 2, line 6, as follows:

~~Means for solving the problems~~

Please remove the heading at page 4, line 6, as follows:

~~Effects of the invention~~

Please replace the paragraph [0006] with the following rewritten version:

[0006] As shown in FIG. 1, the a rotary fluid device pertaining to a first aspect of the present invention comprises a rotation mechanism (20). The rotation mechanism (20) includes: a cylinder (21) having an annular cylinder chamber (50); an annular piston (22) which is accommodated in the cylinder chamber (50) to be eccentric relative to the cylinder (21), the annular piston (22) dividing the cylinder chamber (50) into an outer working chamber (51) and an inner working chamber (52); and a blade (23) placed in the cylinder chamber (50) and partitioning each of the working chambers (51, 52) into a high-pressure space and a low-pressure space, the cylinder (21) and the piston (22) being relatively rotatable. One of the two working chambers (51, 52) constitutes a compression chamber which compresses and discharges a sucked fluid with the progress of the relative rotation of the cylinder (21) and the piston (22). The other of the two working chambers (51, 52) constitutes an expansion chamber which expands and discharges a sucked fluid with the progress of the relative rotation of the cylinder (21) and the piston (22).

Please replace the paragraph [0007] with the following rewritten version:

[0007] In the first aspect of the present invention, as the rotation mechanism (20) is driven, the cylinder (21) and the piston (22) relatively rotate, so that the volume of the compression chamber (51) decreases to compress the fluid, while the volume of the expansion chamber (52) increases to expand the fluid. The expansion of the fluid allows recovery of power.

Please replace the paragraph [0008] with the following rewritten version:

[0008] The rotary fluid device according to the a second aspect of the present invention, ~~in is the rotary fluid device of the first aspect of the present invention, a suction mechanism (60) is further provided. The~~ further comprising a suction mechanism (60) that allows the refrigerant to be introduced into the expansion chamber (52) in a predetermined rotation angle range of the piston (22) such that an expansion process of the fluid in the expansion chamber (52) occurs in a predetermined range within one rotation cycle of the piston (22) relative to the cylinder (21).

Please replace the paragraph [0009] with the following rewritten version:

[0009] In the second aspect of the present invention, the fluid is introduced into the expansion chamber (52) by the suction mechanism (60) within a predetermined rotation angle range of the piston (22). As a result, the expansion process of the fluid in the expansion chamber (52) occurs in a predetermined range within one rotation cycle of the piston (22) relative to the cylinder (21), such that the pressure and expansion work of the fluid are recovered.

Please replace the paragraph [0010] with the following rewritten version:

[0010] The rotary fluid device according to the a third aspect of the present invention, ~~in is the rotary fluid device of the first aspect of the present invention, wherein~~ the compression chamber (51) is a working chamber formed outside the cylinder chamber (50), and the expansion chamber (52) is a working chamber formed inside the cylinder chamber (50).

Please replace the paragraph [0011] with the following rewritten version:

[0011] In the third aspect of the present invention, the compression chamber (51) is formed outside the cylinder chamber (50) while the expansion chamber (52) is formed inside the cylinder chamber (50). Therefore, a predetermined compression capacity is achieved.

Please replace the paragraph [0012] with the following rewritten version:

[0012] ~~The rotary fluid device according~~According to the a fourth aspect of the present invention,~~in is the rotary fluid device of the first aspect of the present invention, further comprising~~ a drive mechanism (30) for driving the rotation mechanism (20) ~~is further provided~~. The rotation speed of the drive mechanism (30) is variably controlled.

Please replace the paragraph [0013] with the following rewritten version:

[0013] In the fourth aspect of the present invention, the rotation of the drive mechanism (30) is controlled. Therefore, the operation is carried out according to required performance such that the efficiency is further improved.

Please replace the paragraph [0014] with the following rewritten version:

[0014] ~~The rotary fluid device according~~According to the a fifth aspect of the present invention,~~in is the rotary fluid device of the first aspect of the present invention, wherein~~ the piston (22) has the shape of C formed by removing a part of its annular structure to make a slit. The blade (23) extends between an inner peripheral wall surface and an outer peripheral wall surface of the cylinder chamber (50) through the slit of the piston (22). A swing bush (27) is provided in the slit of the piston (22) so as to be in surface contact with the piston (22) and the blade (23) such that the blade (23) is reciprocable and swingable relative to the piston (22).

Please replace the paragraph [0015] with the following rewritten version:

[0015] In the fifth aspect of the present invention, the blade (23) reciprocates in the swing bush (27) while the blade (23) and the swing bush (27) integrally swing relative to the piston (22). With this structure, the cylinder (21) and the piston (22) rotate while relatively swinging such that the rotation mechanism (20) performs predetermined compression and expansion operations.

Please replace the paragraph [0018] with the following rewritten version:

[0018] According to the second aspect of the present invention, since introduction of the refrigerant into the expansion chamber (52) is limited only to a predetermined rotation angle, even expansion work can also be recovered. Therefore, the efficiency is further improved.

Please replace the paragraph [0019] with the following rewritten version:

[0019] According to the third aspect of the present invention, since the compression chamber (51) is formed outside the cylinder chamber (50) and the expansion chamber (52) is formed inside the cylinder chamber (50), the compression capacity is fully utilized.

Please replace the paragraph [0020] with the following rewritten version:

[0020] According to the fourth aspect of the present invention, since the rotation of the drive mechanism (30) is controlled, the operation efficiency is further improved.

Please replace the paragraph [0021] with the following rewritten version:

[0021] According to the fifth aspect of the present invention, the swing bush (27) is provided as a coupling member for coupling the piston (22) and the blade (23) and is configured to be substantially in surface contact with the piston (22) and the blade (23). This arrangement avoids the wearing-away of the piston (22) and the blade (23) and the burning of the contact portions therebetween during operation.

Please remove the heading at page 5, line 17 as follows:

~~Description of Reference Numerals~~

Please remove the paragraph on page 5, line 18 as follows:

~~1—Compressor~~

- 10 — Casing
- 20 — ~~Expansion/compression mechanism (rotational mechanism)~~
- 21 — Cylinder
- 22 — Piston
- 23 — Blade
- 24 — ~~External cylinder~~
- 25 — ~~Internal cylinder~~
- 27 — Swing bush
- 30 — ~~Electric motor (driving mechanism)~~
- 33 — Drive shaft
- 50 — ~~Cylinder chamber~~
- 51 — ~~Compression chamber~~
- 52 — ~~Expansion chamber~~
- 60 — ~~Suction mechanism~~
- 61 — ~~First path~~
- 62 — ~~Second path~~

Please replace the heading at page 6, line 8, with the following rewritten version:

~~BEST MODES FOR CARRYING OUT~~ DETAILED DESCRIPTION OF THE
INVENTION

Please add the following new heading at page 18, between lines 1 and 2

WHAT IS CLAIMED IS: